

THE CLAIMS

The text of all pending claims, including withdrawn claims, is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (PREVIOUSLY PRESENTED) A bubble-ink jet print head comprising:
a substrate having ink chambers to store ink and resistance heat emitting bodies to heat ink disposed thereover; and
an ink supply passage which penetrates the substrate, extends beyond the substrate, and which is connected to the ink chambers, the ink supply passage including:
a first trench formed at a first surface of the substrate in a first pattern having a separating distance from at least one of inlets of the ink chambers and connecting portions between the adjacent ink chambers, the first surface of the substrate having the ink chambers disposed thereover, and
a second trench formed at a second surface of the substrate in a second pattern, having an area equal to or smaller than that of the first trench in the range of the first pattern of the first trench, and in communication with the first trench, wherein the first trench has a depth from 5 μ m to 20 μ m.

2. (CANCELLED)

3. (PREVIOUSLY PRESENTED) A bubble-ink jet print head comprising:
a substrate having ink chambers to store ink and resistance heat emitting bodies to heat ink disposed thereover; and
an ink supply passage which penetrates the substrate, extends beyond the substrate, and which is connected to the ink chambers, the ink supply passage including:
a first trench formed at a first surface of the substrate in a first pattern having a separating distance from at least one of inlets of the ink chambers and connecting portions between the adjacent ink chambers, the first surface of the substrate having the ink chambers disposed thereover, and
a second trench formed at a second surface of the substrate in a second pattern,

having an area equal to or smaller than that of the first trench in the range of the first pattern of the first trench, and in communication with the first trench, wherein the separating distance is from $1\mu\text{m}$ to $5\mu\text{m}$.

4-24. (CANCELLED)

25. (PREVIOUSLY PRESENTED) An ink-jet print head, comprising:

a substrate;

at least one heater formed on a top surface of the substrate which heats ink disposed;

a protective layer formed on the at least one heater;

an ink chamber disposed at least partially over the protective layer; and

an ink supply opening extending through the substrate and the protective layer, the ink passage in fluidic communication with the ink supply chamber and the ink chamber, the ink supply opening including

a first trench formed at an ink chamber side of the substrate in a first pattern having a separated distance from at least one of inlets of the ink chambers and connecting portions between the adjacent ink chambers, and

a second trench formed at a second surface of the substrate in a second pattern, having an area equal to or area smaller than that of the first trench in the range of the first pattern of the first trench, to communicate with the first trench,

wherein the first trench has a depth from $5\mu\text{m}$ to $20\mu\text{m}$.

26-29. (CANCELLED)